

Appl. No. 10/027,153
Reply to Office action of 06/13/2005

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REMARKS/ARGUMENTS

In reply to the Final Office Action mailed June 13, 2005, Applicants respectfully request reconsideration of the subject application. In the Office Action, the Examiner rejected claims 1, 2, 5-10 and 18-20 and objected to claims 3, 4 and 11-17. However, there were no rejections entered against claims 11-17 and therefore Applicants respectfully submit that claims 11-17 have been allowed. Accordingly, claims 1-20 remain pending in the subject application.

In the Office Action, claims 1, 5 and 6 were rejected as obvious under 35 U.S.C. §103(a) as being obvious over U.S. Patent 2,228,028 (the "Brower patent"). The rejection contends that the extractor 2 in the Brower patent is the recited "prewashed section for converting hydrogen sulfide to sodium sulfide" and the second extractor 18 is the recited "extractor section for converting mercaptans to mercaptides" that is "disposed directly above said prewash section." Applicants would like to remind the Examiner that the Examiner has the burden of showing evidence of the *prima facie* case of obviousness. Arguing that the process of the Brower patent would not be negatively impacted by the placement of the extractor 18 at a higher elevation than prewash section 2 is not sufficient to establish a *prima facie* case of obviousness, simply because the claimed recitation is not taught or suggested by the reference whether or not the reference would be negatively impacted by such rearrangement of elements according to the claim. Moreover, the Examiner has interpreted "directly above" to "mean at an elevation higher than a set reference point, and in the reference point['s] general vicinity." Action at page 8. Applicants respectfully submit that there is no reference point in the extractor 18 which is higher than a corresponding reference point in the extractor 2. If the Examiner contends that the term "above" is met by any reference point in the extractor 18 being above any reference point in the extractor 2, Applicants respectfully submit that the term "directly" precludes such a loose interpretation of "above." Applicants would also like to point out that the extractor 2 is not a prewash vessel for converting hydrogen sulfide to sodium sulfide as recited in claim 1. As the Examiner pointed out, "Brower specifically teaches to avoid converting hydrogen sulfide in the extractor (2) ... Brower indicates that feed to extractor (2) is extracted with an aqueous solution of caustic alkali under conditions primarily to remove thiophenols only (pp.2, lines 40-43, right column)." Action at page 7. The vessel in the Brower flow scheme that removes H₂S from the hydrocarbon stream is "a conventional H₂S removal plant 8," hydrogen sulfide being expelled through line 9. Brower patent, page 2, second column, lines 33-34. Moreover, the conventional H₂S removal plant 8 which is analogous to the prewash section is disposed directly above extractor 2 and above extractor 18 which is opposite to what is recited in claim 1. Accordingly, not only is extractor 18 not disposed directly above extractor 2 but the extractor 2 is not a prewash section for converting hydrogen sulfide to sodium sulfide as recited in claim 2. The vessel that corresponds to the prewash section of claim 1 is the H₂S removal plant 8 which is disposed above each extractor 2, 18. Applicants respectfully submit that the Brower patent does not teach or suggest all of the recitations of claim 1.

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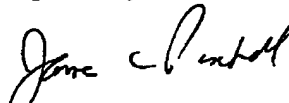
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Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 and claims 2-10 which depend from claim 1.

Claims 2, 7-10 and 18-20 were also rejected under 35 U.S.C. §103(a) as being obvious over the Brower patent and U.S. Patent 2,337,467 (the "Hewlett patent") and U.S. Patent Application Publication No. US 2001/0015136 A1 (the "Letzel publication"). Applicants have explained in the previous submission that it is inappropriate to assume that vapor-liquid separation equipment from distillation column can be substituted for liquid-liquid separation equipment in an extractor vessel. The Examiner has responded by contending that Brower discloses that the extractor 2 is a distillation extractor and because the Brower patent discloses that extractor 18 may have a similar design as the extractor 2 that extractor 18 is a distillation extractor. Applicants respectfully point out that in the cited language from the Brower patent, page 2, column 2, lines 39-40, the term "distillate or its bottom fraction" refers to the feed in line 1 [h] to the system labeled "Hydrocarbon Distillate" not to the vessel. Calling the stream in line 1 "hydrocarbon distillate" may indicate that the feed is produced by distillation column but does not indicate that the vessel to which it is fed is a distillation column. One of ordinary skill in the art would clearly know that a liquid-liquid extractor column which operates on the basis of relative densities to separate two liquid components is in no way related to a distillation column which relies on different relative boiling points to separate components in vapor and liquid phases. Applicants respectfully submit that because the extractors 2 and 18 are not distillation columns, it is not appropriate to substitute equipment from a vapor-liquid distillation column into a liquid-liquid extraction column without violating the rule against hindsight reconstruction to support a *prima facie* case of obviousness. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection for obviousness, claims 2, 7-10 and 18-20.

Applicants respectfully request reconsideration and allowance of all the claims 1-20 after final rejection in the subject application. Should the Examiner like to discuss this matter further, please feel free to contact the undersigned.

Respectfully submitted,



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